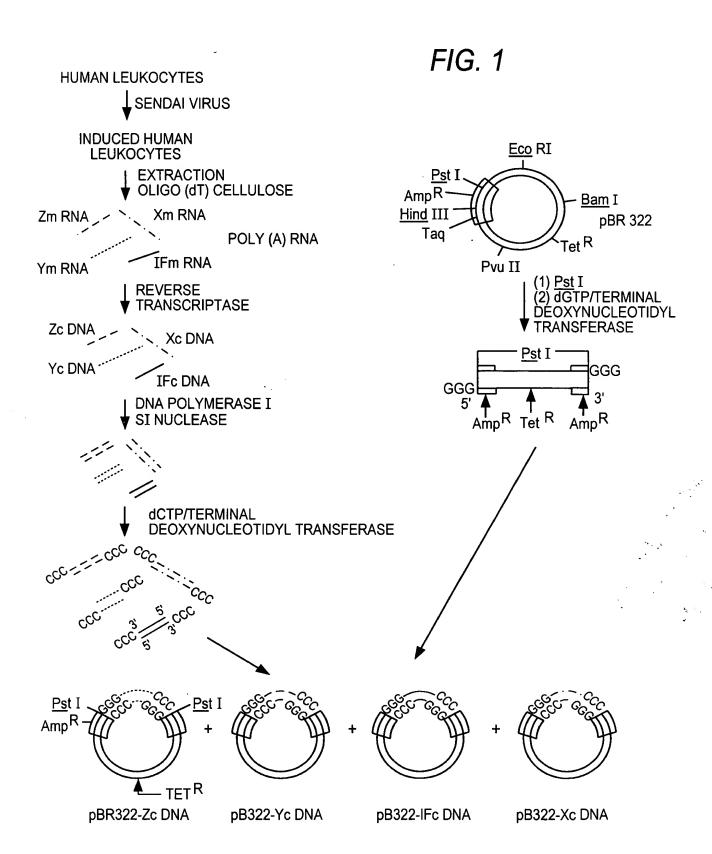
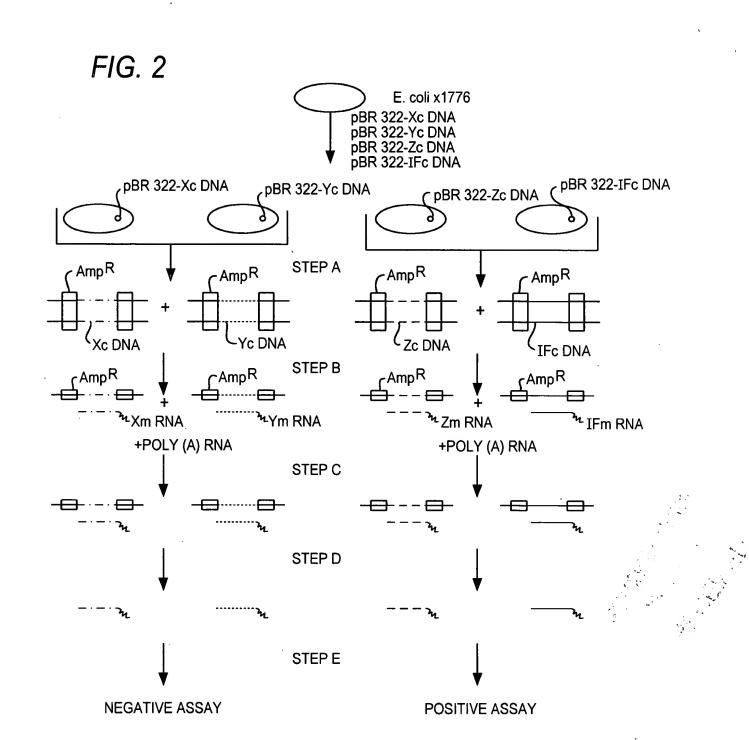


Applicants: Charles Weissman Application No.: 08/487,280 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULAND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attomey James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 1 of 31



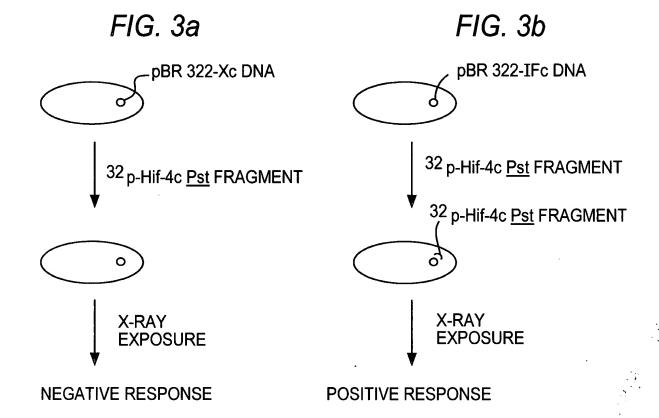


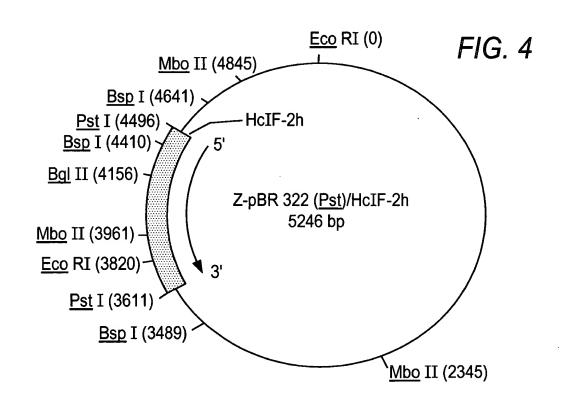
Applicants: Charles Weissman Application No.: 08/487,280 Fi 67/95Title: DNA SEQUENCES RECOMBINANT MOLECUL. AND PROCESSES FOR PRODUCING HUMAN INTERFERON-LIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-5900 SHEET 2 of 31





Applicants: Charles Weissman Application No.: 08/487,280 Filed: 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET. 3 of 31



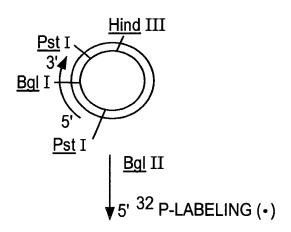


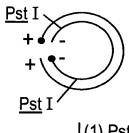


Applicants: Charles Weissman Application No.: 08/487,280 F 67/795Title: DNA SEQUENCES RECOMBINANT MOLECULAND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 4 of 31

4/31

FIG. 5a







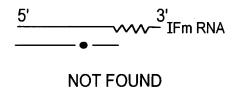
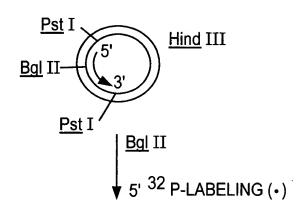
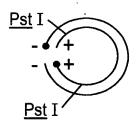
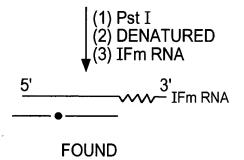


FIG. 5b







Applicants: Charles Weissman Application No.: 08/487,280 Filed: 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 5 of 31

5/31 ATGAGTATICAACATITCCGIGICGCCCTIATICCCTTTTTGCGGCATTTTGCCTTCCTGTTTTTGCTCACCGCTGCAATG***

25

ATGAGTATICAACATITCCGIGTCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCTTCCTGTTTTTGCTCACCCGCTGCAATG MetSerI!eGInHisPheArgValAlaLeuIleProPhePheAlaAlaPheCysLeuProValPheAlaHisProLeuGInGIn

MetSerIleGInHisPheArgValAlaLeuIleProPhePheAlaAlaPheCysLeuProValPheAlaHisArgCysSerAsn

CCTGCAGCAATG *** ProAlaAlaMet

CTGGTG 29 LeuVa¦

pKT279

pKT280

pBR322

Pst

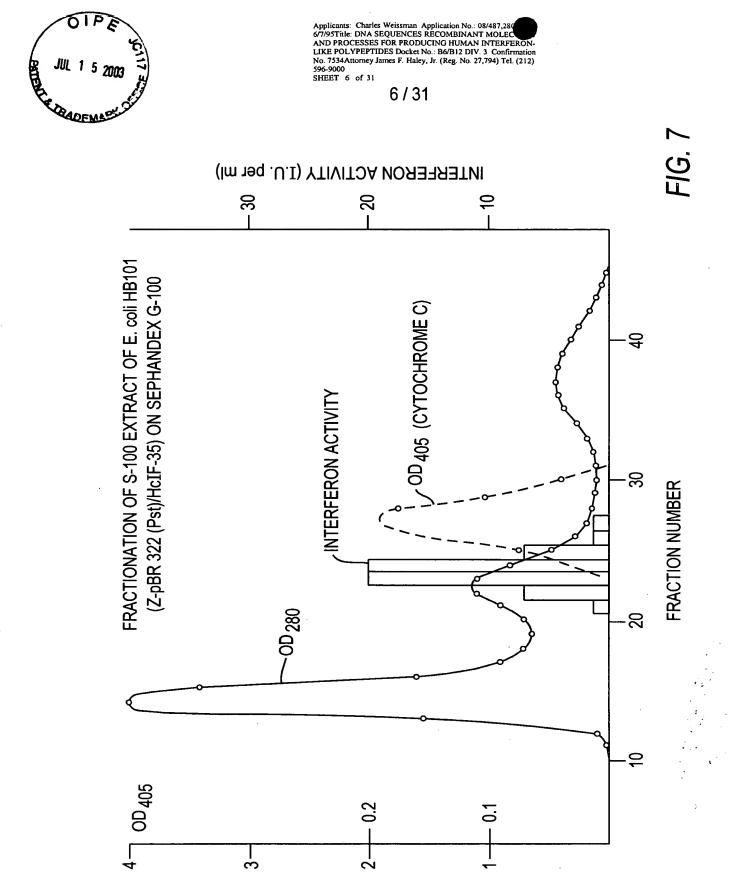
ATGAGTATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCTTCCTGTTTTTGCTCACCAGAAACG MetSerIleGInHisPheArgValAlaLeuIleProPhePheAlaAlaPheCysLeuProValPheAlaHisProGluThr

2

MetSerIleGInHisPheArgVa!AlaLeuIleProPhePheAlaAlaPheCysLeuProVa!PheAlaHisProGluThr ... ATGAGTATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGCATTTTGCGCATTTTGCTTTTTGCTCACAAACG ... 2

GCTGCAGCAATG *** AlaAlaAlaMet

pKT287



OD 280



S10

8

2

8

22

40

8

2

9

 \overline{S}

Applicants: Charles Weissman Application No.: 08/487,280 Filed; 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERON-LIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation James F. Haley, Jr. (Reg. No. 27,794) Tel. (212)

596-9000 SHEET 7 of 31

Eso RII 7/31 G_{23} ctctaggttcagagtcaccatctcagcaagcccagaagtatctgcaatatctacgatggcctcgcctttgctttactgatgatcctg GIGGIGCICAGCIGCAAGICACGICTCICIGGGCIGIGAICICCCIGAGACCCACAGCCIGGATAACAGGAGGAGCTIGAIGCICCIG Avaii Avaii Stani Ecorii METALASERPROPHEALALEULEUMETVALLEU VALVALLEUSERCYSLYSSERSERCYSSERLEUGLYCYSASPLEUPROGLUTHRHISSERLEUASPASNARGARGTHRLEUMETLEULEU Ava II 170 160 9 Dde I Eco PI 5 **S**20 110 Dde I Pvu II 8

ALAGLNMETSERARG! LESERPROSERSERCYSLEUMETASPARGH!SASPPHEGLYPHEPROGLNGLUGLUPHEASPGLYASNGLNPHE Eco RII



Applicants: Charles Weissman Application No.: 08/487,280 Fi 6/7/95Title: DNA SEQUENCES RECOMBINANT MOLECUL AND PROCESSES FOR PRODUCING HUMAN INTERFERON-LIKE POLYPEPTIDES Docket No.: 86/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000

GLNLYSALAPROALAILESERVALLEUHISGLULEUILEGLNGLNILEPHEASNLEUPHETHRTHRLYSASPSERSERALAALATRPASP CAGAAGGCTCCAGCCATCTCTGTCCTCCATGAGCTGATCCAGCAGATCTTCAACCTCTTTACCACAAAAGATTCATCTGCTTGGGAT 8/31 GAGGACCTCCTAGACAAATTCTGCACCGAACTCTACCAGCAGCTGAATGACTTGGAAGCCTGTGTGATGCAGGAGGAGAGGGTGGGAGAAA GLUASPLEULEUASPLYSPHECYSTHRGLULEUTYRGLNGLNLEUASNASPLEUGLUALACYSVALMETGLNGLUGLUARGVALGLYGL 340 2 100 330 II odM I odM 320 Bgl II EcoP15 Pvu II 310 EcoP15 8 8 AluMbo I 8 390 33 370 ည 8 270 360

THRPROLEUMETASNALAASPSERILELEUALAVALLYSLYSTYRPHEARGARGILETHRLEUTYRLEUTHRGLULYSLYSTYRSERPRO **ACTCCCCTGATGAATGCGGACTCCATCTTGGCTGTGAAGAATACTTCCGAAGAATCACTCTCTATCTGACAGAGAAGAATACAGCCCT** 230 Mbo II 520 130 510 Mbo II 200 490 Mbo II 120 19 450



Applicants: Charles Weissman Application No.: 08/487,280 67/95Title: DNA SEQUENCES RECOMBINANT MOLECUAND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 9 of 31

TGTTCATATAACGT

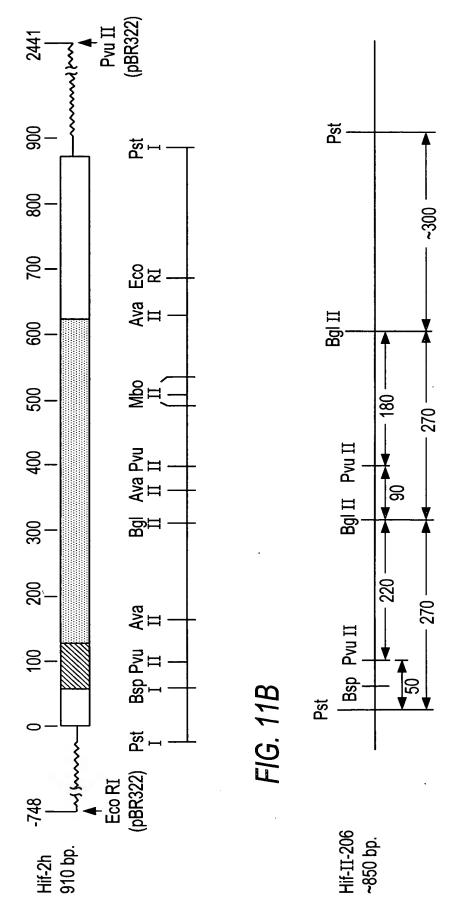
TAAATTAT



FIG. 11A

Applicants: Charles Weissman Application No.: 08/487,2 dc: 6/7/95Title: DNA SEQUENCES RECOMBINANT MOLE ES AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 10 of 31

10/31



Applicants: Charles Weissman Application No.: 08/487,280 67/95Title: DNA SEQUENCES RECOMBINANT MOLECU AND PROCESSES FOR PRODUCING HUMAN INTERFERON-LIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 11 of 31

11/31

G₁₃.TTACTGGTGGCCCTC

-50

ala ser pro phe ala leu leu met val leu met

G₂₃CTCTAGGTTCAGAGTCACCCATCTCAGCAAGCCCAGAAGTATCTGCAATATCTACGATGGCCTCGCCTTTGCTTACTGATGGTCCTG

င္ပ

ဆု

6

-120

val gly CYS ASP LEU PROGLN THR HIS SER LEU GLY SERARGARG THR LEU MET LEU LEU

gly CYS ASP LEU PROGLU THR HIS SER LEU ASP ASNARGARG THR LEU MET LEU LEU

9

8

20

9

CTGGTGCTCAGCTGCAAGTCAAGCTGCTCTGTGGGCTGTGATCTGCCTCAAACCCACAGGCCTGGGTAGCAGGAGGACCTTGATGCTCCTG

ser cys ser Ser leu val leu ser cys lys

206(II)

우

GTGGTGCTCAGCTGCAAGTCAAGCTGCTCTCGGGCTGTGATCTCCCTGAGACCCACAGGCCTGGATAACAGGAGGACCTTGATGCTCCTG ser cys ser leu leu ser cys lys ser

<u>ka</u> ۲a

2h(I)



Applicants: Charles Weissman Application No.: 08/487,280 Filed: 6/7/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERON-LIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000
SHEET 12 of 31

12/31

CAGAAGGCTCCAGCCATCTCTGTCCTCCATGAGCTGATCCAGCAGATCTTCAACCTCTTTACCACAAAAGATTCATCTGCTTGGGAT. GGCAACCAGTTC **GLY ASN GLN PHE** ALA GLN MET SER ARG ILE SER PRO SER SER CYS LEU MET ASP ARG HIS ASP PHE GLY PHE PRO GLN GLU GLU PHE ASP GLY ASN GLN PHE GLN LYS ALA GLU THR ILE PRO VAL LEU HIS GLU MET ILE GLN GLN ILE PHE ASN LEU PHE SER THR LYS ASP SER SER ALA ALA TRP ASP GLN LYS ALA PRO ALA ILE SER VAL LEU HIS GLU LEU ILE GLNGLN ILE PHE ASN LEU PHE THR THR LYS ASP SER SER ALA ALA TRP ASP <u> CAAAAAGGCTGAAQCCATCCCTGTCCTCCATGAGATGATCCAGCAGATCTTCAATCTTCAGCACAAAGGACTCATCTGCTGGTTGGGAT</u> 230 220 ALA GLN MET ARGARG ILE SER LEU PHE SER CYS LEU LYS ASP ARG HIS ASP PHE GLY PHE PRO GLN GLU GLU PHE GCACAGATGAGGAGAATCICTCTITTCICCIGCITGAAGGACAGACATGACITTGGATTICCCCAGGAGGAGTT 2 20 2 8 200 8 8 8 ഒ ജ 8 2 8 8 <u>89</u> 150 20 35 ල -2 20 206(II) 206(II) 2h(I) 2h(I)

FIG. 13

Applicants: Charles Weissman Application No.: 08/487,280 Fi 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULE-AND PROCESSES FOR PRODUCING HUMAN INTERFERON-LIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 13 of 31

13/31

GAGGACCTCCTAGACAAATTCTGCACCGAACTCTACCAGCAGCTGAATGACTTGGAAGCCTGTGTGATGCAGGAGGAGGAGGAGAGGAGGAGA GLU ASP LEU LEU ASP LYS PHE CYS THR GLU LEU TYR GLN GLN LEU ASN ASP LEU GLU ALA CYS VAL MET GLN GLU GLU ARG VAL GLY GLU ACTCCCCTGATGAAGGAGGACTCCATTCTGGCTGTGAGGAAATACTTCCAAAAGACTCTCTATCTGAAAGAAGAAGAAATACAGCCT THR PRO LEU MET LYS GLU ASP SER ILE LEU ALA VAL ARG LYS TYR PHE GLN ARG ILE THR LEU TYR LEU LYS GLU LYS LYS TYR SER PRO THR PRO LEU MET ASN ALA ASP SER ILE LEU ALA VAL LYS LYS TYR PHE ARGARG ILE THR LEU TYR LEU THR GLU LYS LYS TYR SER PRO ACTCCCCTGATGAATGCGGACTCCATCTTGGCTGTGAAGAAATACTTCCGAAGAATCACTCTCTATCTGACAGAGAAGAAGTACAGCCT GLU THR LEU LEU ASP LYS PHE TYR THR GLU LEU TYR GLN GLN LEU ASN ASP LEU GLU ALA CYS VAL ILE GLN GLY VAL GLY VAL THR GLU 5 130 9 290 88 370 360 120 È 360 ഒ 260 340 250 110 8 240 206(II) 206(II) 2h(I) 2h(I)

FIG. 14



Applicants: Charles Weissman Application No.: 08/487,280 File 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 14 of 31

14/31

140 CYS ALA TRP GLU VAL VAL ARG ALA GLU ILE MET ARG SER LEU SER THRASN LEU GLN GLUARG LEU ARG ARG LYS GLU TGTGCCTGGGAGGTTGTCAGAGCAGAAATCATGAGATCCTCTTTTATCAACAAGAAGAAGATTAAGGAGGAAGGA

2h(I)



Applicants: Charles Weissman Application No.: 08/487,280 H 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULAND PROCESSES FOR PRODUCING HUMAN INTERFERON-LIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 15 of 31

15/31



Applicants: Charles Weissman Application No.: 08/487,280 Filed 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 16 of 31

16/31

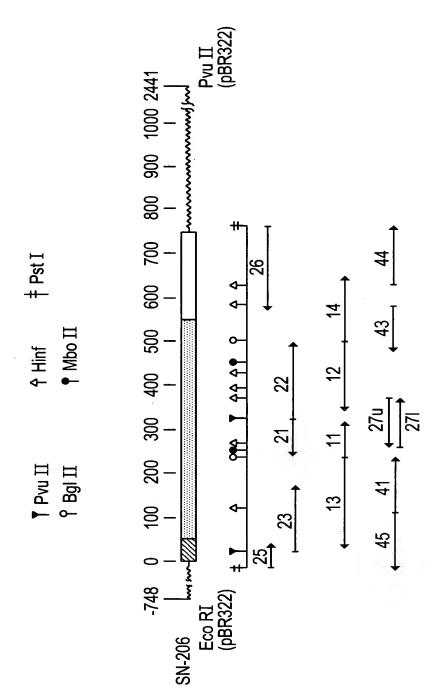
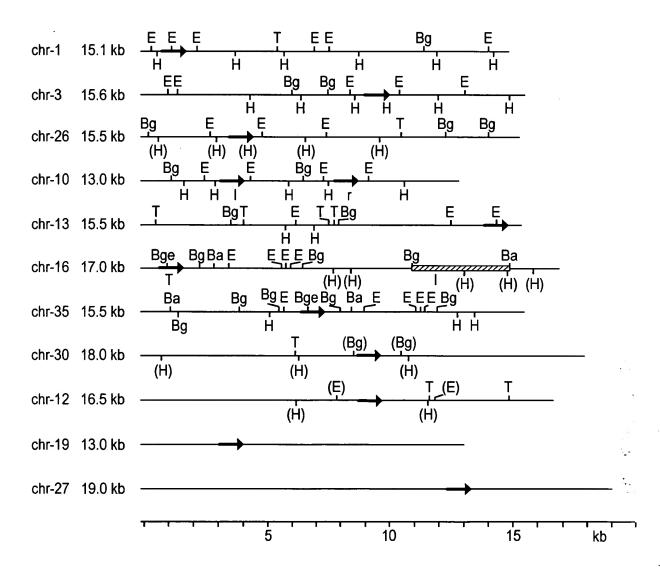






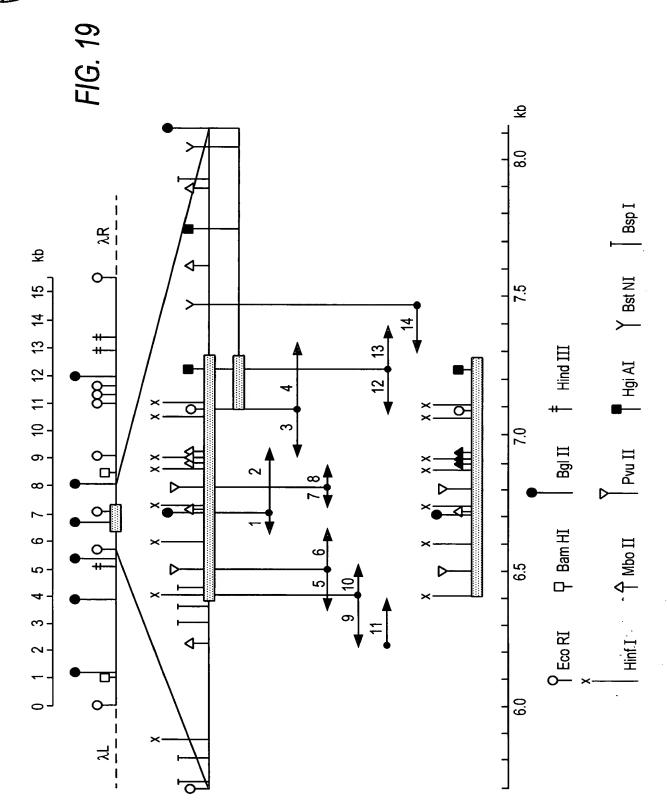
FIG. 18

PARTIAL RESTRICTION MAPS OF CLONED, IFN- α RELATED CHROMOSOMAL DNA SEGMENTS



E: Eco RI, Ba: Bam HI, Bg: Bgl II, Hinc III, T: Tac I

Applicants: Charles Weissman Application No.: 08/487,280 6/7/95Title: DNA SEQUENCES RECOMBINANT MOLECU AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 18 of 31



19/31

S10

AAAACAAAACATTTGAGAAACACGGCTCTAAACTCATGTAAAGAGTGCATGAAGGAAAGCAAAAACAGAAATG

metalaserprophealaleuleumetmetvalleu Eco RII GCCCAAGGTTCAGAGTCACCCATCTCAGCAAGCCCAGAAGTATCTGCAATATCTACGATGGCCTCGCCCTTTGCTTTACTGATGGTCCTG Ava II

ا کا

GIGGIGCICAGCIGCAAGICAAGCIGCICTCIGGGCIGIGAICICCCIGAGACCCACAGCCIGGAIAACAGGAGGACCITGAIGCICCIG Ana II Ana II Stani Eco RII 40 valvaljeusercyslyssersercysserleuglyCYSASPLEUPROGLUTHRHISSERLEUASPASNARGARGTHRLEUMETLEULEU Eco PI Dde I S20 Dde

20 / 31

ALAGLNMETSERARG I LESERPROSERSERCYSL EUMETASPARGH I SASPPHEGL YPHEPROGLNGL UGLUPHEASPGL YASNGLNPHE 6 2

GLNL YSALAPROALA I LESERVALLEUH I SGLULEU I LEGLNGLN I LEPHEASNLEUPHETHRTHRL YSASPSERSERALAALATRPASP CAGAAGGCTCCAGCCATCTGTGCTCCATGAGCTGATÇCAGCAGATCTTCAACCTCTTTACCACAAAAGATTCATCTGCTGGTTGGGAT 2 EcoP15 MboI MboII Alu MboI 9 220 22

GLUASPLEULEUASPLYSPHECYSTHRGLULEUTYRGLNGLNLEUASNASPLEUGLUALACYSVALMETGLNGLUGLUARGVALGLYGLU 8 Pvull EcoP15 Avall 8



Applicants: Charles Weissman Application No.: 08/487,280 Filed 6/7/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERON-LIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000

21/31

480 THRPROLEUMETASNALAASPSERILELEUALAVALLYSLYSTYRPHEARGARGILETHRLEUTYRLEUTHRGLULYSLYSTYRSERPRO CTGGTCCAACATGAAAACAATTCTTATTGACTCATACACCAGGTCACGCTTTCATGAATTCTGTCATTTCAAAGACTCTCACCCCTGCTA ACTCCCCTGATGAATGCGGACTCCATCTTGGCTGTGAAGAAATACTTCCGAAGAATCACTCTCTATCTGACAGAGAAGAAATACAGCCCT 166 500 CYSALATRPGLUVALVALARGALAGLU1LEMETARGSERLEUSERLEUSERTHRASNLEUGLNGLUARGLEUARGARGLYSGLU 640 130 160 Ē Mbo II 620 Eco RII Mbo II Mbo I 120 150 Eco RII 280 4

CATGTGCACCTTTACACTGTGGTTAGTGTAATAAAACATGTTCCTTATATTTACTCAATCCATTATTTTGTGTTGTTCATTAAACTTTTA

TAACTATGACCATGCTGATAAACTGATTTATCTATTTAAATATTTTAACTATTCATAAGATTTAAATTATTTTGTTCATAACGT

700

89

HG. 22

Applicants: Charles Weissman Application No.: 08/487,280 Filed: 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534

22 / 31

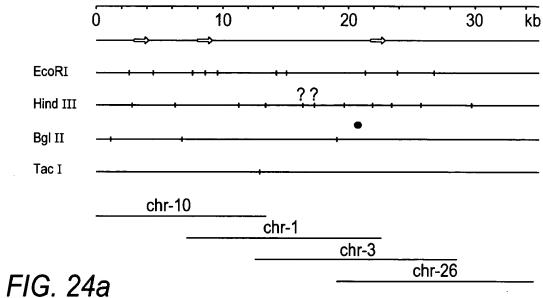
CTATAGGAACTICCTGTATGTGTTCATTCTTTAATATGAAATTCCTAGCCTGACTGTGCAACCTGATTAGAGAATAAAGGGTATATTTA



Applicants: Charles Weissman Application No.: 08/487,280 Filed: 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 23 of 31

23 / 31

LINKAGE OF IFN-∞ RELEATED GENES



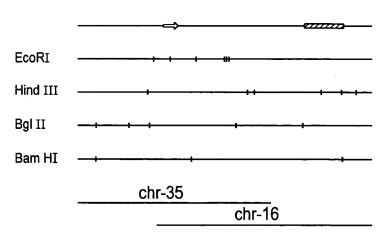


FIG. 24b



Applicants: Charles Weissman Application No.: 08/487,280 Filed: 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 24 of 31

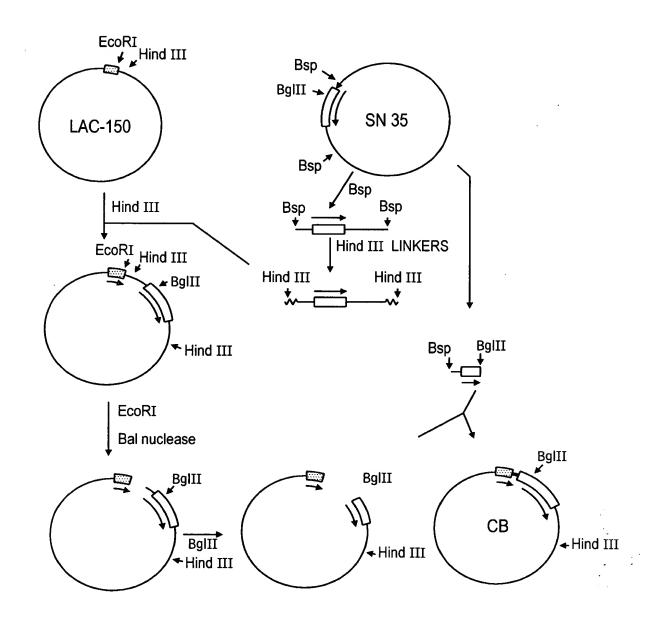
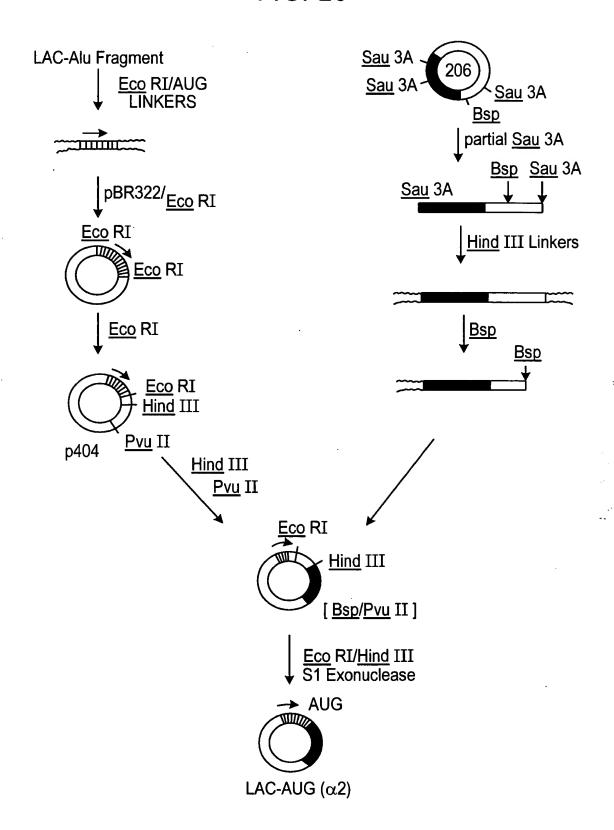


FIG. 25



Applicants: Charles Weissman Application No.: 08/487,280 F 6/7/95Title: DNA SEQUENCES RECOMBINANT MOLECULAND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 25 of 31

25 / 31





Applicants: Charles Weissman Application No.: 08/487,280 677/95Title: DNA SEQUENCES RECOMBINANT MOLECAND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 26 of 31

26 / 31

FIG. 27

CONSTRUCTION OF PLASMID LAC-AUG(α -2)

LAC PROMOTER

IFN-α cDNA

MET
...ACAG|CTATG...
...TGTC|GATAC...
Alu I

LEUGLYCYS ASP CTGGGCTGT GAT.... GACCCGACA CTA...

...AAACAG + CTATGAATTCATAG ...TTTCTC + GATACTTAAGTAGC LIGASE ACAAGCTTGT+GAT...
TGTTCGAACA+CTA...

LIGASE

Eco LINKER
...ACAGCTATGAATTCATAG
...TGTCGATACTTAAGTATC

CYSASP ACAAGCTTGTGAT... TGTTCGAACACTA...

Eco RI S₁NUCLEASE Hind III S₁NUCLEASE

...ACAGCTATG + TGTGAT... ...TCTCGATAC + ACACTA...

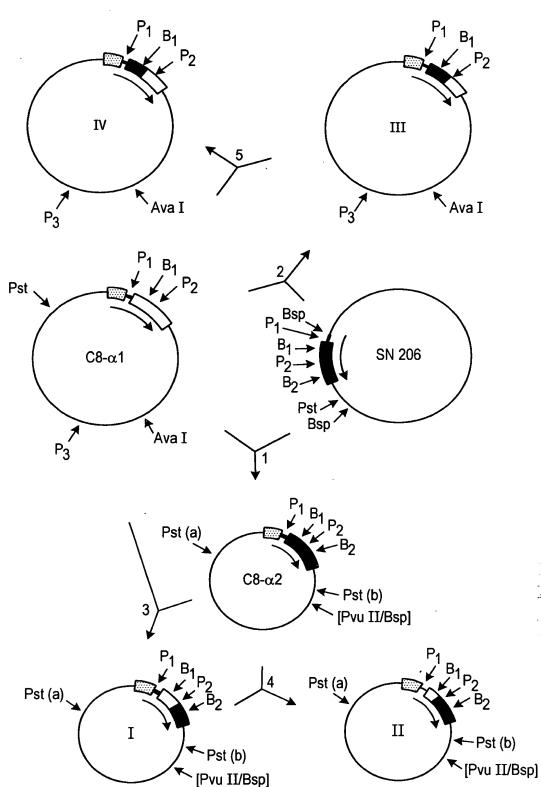
LIGASE

MetCYSASP ...ACAGCTATGTGTGAT...
...TGTCGATACACACTA...



Applicants: Charles Weissman Application No.: 08/487,28 67/95Title: DNA SEQUENCES RECOMBINANT MOLECAND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attomey James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000
SHEET 27 of 31

27 / 31





200

8

Applicants: Charles Weissman Application No.: 08/487,280 File 67/195Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 28 of 31

28/31

300 $\mathsf{C}_{24} \mathsf{AATGCAAAT}_{\overline{\mathsf{AGCTJ}}} \mathsf{ATATTATATGATTTATTTCTAGTAAA}$

PvuII BbrsII

EcoRI

TTATTTTGCATATGTACTTTGATACAAAATTTACATGAACAAATTACACTAAAGTTATTCCACA 460 440 TATATTCATATTAATGTGTATCTATATAGATTŢ 420

EcoRI

TAAACTTAAATTTTAGTTTAGTTTAGCTTTTCTGTCATTCTTACTTTGAATAAAAGAGCA EcoRI AluI 280 560

540

ATATACTTATCAAATTAAGTTAATGTCAATĄGCŢT

520

000

200



Applicants: Charles Weissman Application No.: 08/487,280 F 6/7/95Title: DNA SEQUENCES RECOMBINANT MOLECULAND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000

SHEET 29 of 31

29 / 31

002 200	AACTTTGTAGTTTTTATCTGTGAAGTATACGTAATATACATAAATAGATATGCC <u>AAATC</u> JGTGTTTTAAAATTJCATGAAGATTTCAATTA Maii Mbo <u>ii</u> Mbo <u>ii</u>	720 740 800 GAAAAAATACCATAAAAAGGCTTTGAGTGAGAAAATAGGCAATGATGAAAAAAATGAAAAAATTTTTAAACACATGTGAGAGTGCGTAAGAAGC HphI	880 900 JAGAAAATGGAAATTAGTATGTTCACTATTTAAGACCTATGCACAGAGCAAAGTCTTCAGAAAACCTAG Ecori	920 AGGCCGAAGTICAAGGTTATCCATCTCAAGTAGCCCAGCAATATTTGCAACATCCAATGGCCCTGTCTTTTCTTTACTGATGGCCGTGCTGGTCAGGCTCAGGCCGTGCTGCAGGCCGTGCTGCAGCAGCACAGGCCGAGCAGCAGCAGCAGAGAGAG	1020 1040 1060 1060 1060 1060 1060 1060 106	Hhall
099	ACATAAATAGATATGCCAAATCT EcoRI	760 AATGATGAAAAAAATGAAAAAC	860 TAGTATGTTCACTATTTAAGACC EcoRI	960 metalaleuser TGCAATGGCCCTGTCC Asul BspI	1060 SSERLEUGL YASNARGARGTHRL CAGCCTGGGTAATAGGAGGACCT BstnI MnII AsuI	
640	AGTAGAGGTATACGTAATAT Mali	740 SAGTGCAGGTGAAAAATAGGC HphI	840 SGGAATTTAGAAAATGGAAAT EcoRI	940 STCAAGTAGCCCAGCAATATT	1040 CYSASPLEUPROGLNTHRHI TGTGCCTCAGACCCA Dpn MnII	
620	AACTTTGTAGTTTTTATCTCTGTG4	720 GAAAAAATACCATAAAAGGCTTTG	820 AAACAGAGATAGAAAGTACAACTAGGGAATT Rsal EcoRI	920 AGGCCGAAGTTCAAGGTTATCCATC Mnli Bspi	1020 CTACAAATCCATCTGTTCTCTGGGG Asul EcoRI	

Applicants: Charles Weissman Application No.: 08/487,280 File 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULE AND PROCESSES FOR PRODUCING HUMAN INTERFERONLIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 30 of 31

30/31

THE TRADENS

JUL 1 5 2003

GAAACCTGGTTCAACATGGAAATGGATTCCGACTGACTAATACATTATCTCACACTTTCATGAGT;
BstnI 1580 **AGLUILEMETARGSERL** HhaI BSpRI CYSALATRPGLUVAL TGTGCTGGGAGGT1 HhaII



Applicants: Charles Weissman Application No.: 08/487,280 File 67/95Title: DNA SEQUENCES RECOMBINANT MOLECULES AND PROCESSES FOR PRODUCING HUMAN INTERFERON-LIKE POLYPEPTIDES Docket No.: B6/B12 DIV. 3 Confirmation No. 7534Attorney James F. Haley, Jr. (Reg. No. 27,794) Tel. (212) 596-9000 SHEET 31 of 31

31/31

ATTGTGGTGGATGTAACGATATATGTTCTTÇATATTTAGCCAATA